

### **Declaration Under 37 C.F. 1.131**

We, Michael J. Beranek and Richard D. Popik, do hereby declare that we are joint inventors of the subject matter which is claimed in our U.S. Patent application S/N 09/821,945 which was filed in the United States Patent and Trademark Office on 03/30/2001.

We further declare that the invention disclosed and claimed in said application 09/821,945 was conceived by us in the United States and was reduced to practice in the United States by us and/or under our direction and our supervision prior to May 12, 2000, the publication date of the technical article by M. Murakami et al, "Development of a Pointing Device Using EMG Signals," as evidenced below.

In particular, we declare that we conceived of and constructed a system for navigating in a window environment comprising a processor and display with installed window environment software, a sequential digital control circuit coupled to the processor for positioning a pointer and making a selection in response to a plurality of input circuits for receiving electromyographic or neurotropic signals.

We further declare that the above is evidenced by the following Exhibits, true copies of which are included herewith, all of which have dates removed:

1. EXHIBIT A--IBM invention disclosure SMS820000030, which formed the basis for the present application S/N 09/821,945. This disclosure describes navigating a windowed operating environment using a control circuit having positioning and selection capability in response to two signals activated by thought from a chip implanted in the brain. This disclosure was prepared by the joint inventors of S/N 09/821,945 prior to the publication date (May 12, 200) for the cited technical article.

2. EXHIBIT B--a copy of an electronic message (note) sent to the joint inventors acknowledging receipt of the above disclosure, prior to the above publication date.

Prior to May 12, 2000, the effective date of the Murakami document, we inventors worked diligently on the invention as recited in the claimed invention and the subsequent application, for initial filing in the United States Patent and Trademark Office on March 30, 2001. This included communication between IBM counsel and we inventors from March 31, 2000 (submission of the invention to IBM counsel), up to the date of filing the

executed application (March 30, 2001 - decision to file a patent application). All of the inventors were involved in working diligently in providing IBM counsel the pertinent information relating to the inventive concept, including completing the attached invention disclosure. For example, the pertinent information was communicated to IBM counsel on or before March 23, 2001.

Prior to the filing of the above-identified application in the United States Patent and Trademark Office, inventor Richard Popik, communicated with IBM counsel on behalf of both inventors, in preparing such patent application based on the submitted invention disclosure. He worked diligently on the preparation of the patent application with patent counsel until a final draft patent application was completed to the satisfaction of both inventors. Both inventors were involved in reviewing and finalizing the application for the present invention prior to the filing of the above-identified application, as noted above.

A final draft of the application was forwarded to us by IBM counsel, at which time we executed all appropriate documents for filing in the United States Patent and Trademark Office on March 30, 2001. At all times we worked diligently to finalize the application, which was subsequently filed, receiving serial number 09/821,945.

We further declare that all statements made in this declaration of our own knowledge are true and that all statements made on information and belief are believed to be true, and further that the statements were made with the knowledge that willful, false statements and like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful, false statements may jeopardize the validity of the application or any patent issuing thereon.

Dated: 11-12-04


  
Michael J. Beranek

Dated: \_\_\_\_\_

\_\_\_\_\_  
Richard D. Popik

## EXHIBIT A

Orig.

	<b>Disclosure SMS8-2000-0030</b>  <b>Created By:</b> Richard Popik <b>Last Modified By:</b> Sandra Delaurentis  *** IBM Confidential ***
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Required fields are marked with the asterisk (\*) and must be filled in to complete the form.

**Summary**

Status	Under Evaluation
Original Location	SMS
Processing Location	END
Functional Area	GS-(HEALD) IBM Global Services
Attorney/Patent Professional	John Pivnichny/Endicott/IBM
IDT Team	Richard Malek/Endicott/IBM; Rob Edwards/Endicott/IBM; Robert L King/Endicott/IBM; Jon B. Martens/Endicott/IBM; Fred Rogers/Endicott/IBM
Submitted Date	
Owning Division	GS Add/Change
PVT Score	To calculate a PVT score, use the 'Calculate PVT' button.
Incentive Program	
Lab	HEALD
Technology Code	

**Inventors with Lotus Notes IDs**

Inventors: Richard Popik/Atlanta/IBM, Mike Beranek/Atlanta/IBM

Inventor Name > denotes primary contact	Inventor Serial	Div/Dept	Manager Serial	Manager Name
> Popik, Richard D. 445-7914	0A3379	19/OL6A	425272	Beranek, Michael J.
Beranek, Michael J. 445-9488	425272	19/OJ2A	285468	Sharpe, J.J. (James)

**Inventors without Lotus Notes IDs****IDT Selection**

<b>IDT Team:</b> Richard Malek/Endicott/IBM Rob Edwards/Endicott/IBM Robert L King/Endicott/IBM Jon B. Martens/Endicott/IBM Fred Rogers/Endicott/IBM	<b>Attorney/Patent Professional:</b> John Pivnichny/Endicott/IBM
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**Response Due to IP&L:**

**Main Idea**

**Title of disclosure (in English)**  
 Method and Apparatus of Navigating a Windowed Operating Environment Using a Dual Discrete Input Mechanism

### Idea of disclosure

1. Describe your invention, stating the problem solved (if appropriate), and indicating the advantages of using the invention.

Using any mechanism that outputs two signals, a graphical or windowed operating environment can be navigated. The first signal (Signal 1) will be used for navigation. The second signal (Signal 2) will be used for selection.

The advantage of this invention allow accessibility to standard user interfaces with a dual discrete input mechanism.

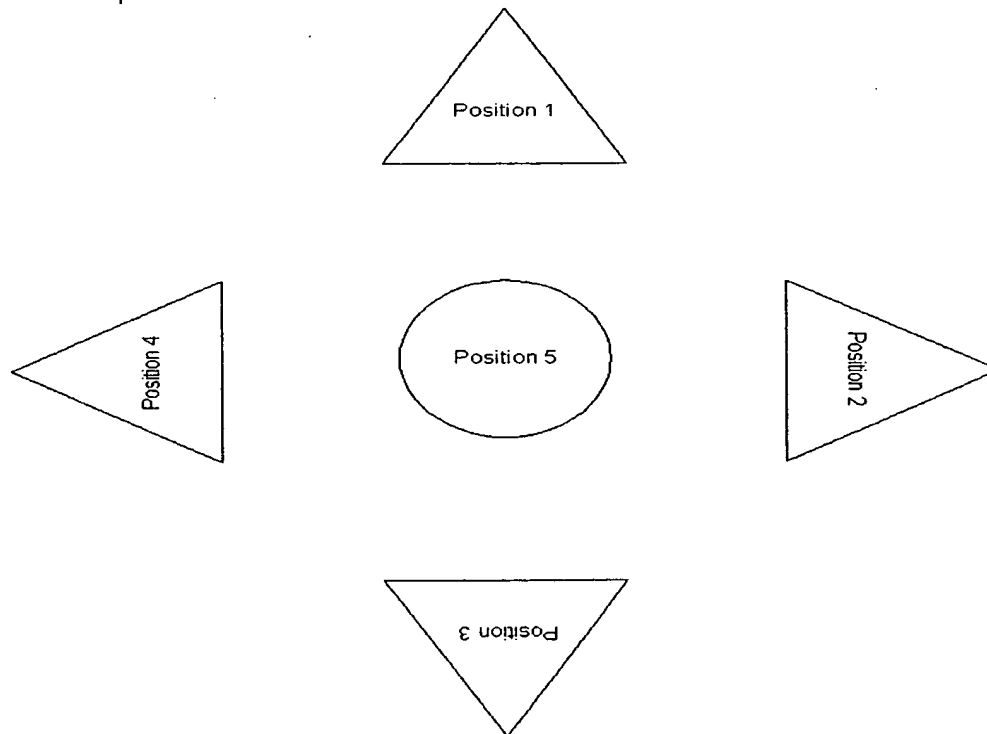
A specific example would be the two signal chip implanted in volunteer paralyzed patient's brains. This research involves learning to teach someone to activate one of two signals by thought and will allow computer access to paralyzed individuals.

2. How does the invention solve the problem or achieve an advantage,(a description of "the invention", including figures inline as appropriate)?

The first signal will advance the position of an index by one for each signal received. When the position reaches the end of the index, it will automatically reset to the first position of the index.

The second signal will function as a selector. Each time the second signal is received, a message will be sent to the operation in the current position index.

For example - a one button mouse.



This can be presented as either a linear button bar, or in a form such as the directional rose shown above.

Signal 1 = navigation signal.

Signal 2 = select signal.

Position 1 would be the starting point.

If the user wanted to move the mouse pointer up, he could send signal two at this time. The addition of other signal two's would be applied serially.

Index	Effects of each Signal 1 received/	Effect of each Signal 2 received
Position 1	Advance to Position 2	Move mouse cursor up a predefined number of pixels, or to the next logical predefined up position
Position 2	Advance to Position 3	Move mouse cursor right a predefined number of pixels, or to the next logical predefined right position
Position 3	Advance to Position 4	Move mouse cursor down a predefined number of pixels, or to the next logical predefined down position
Position 4	Advance to Position 5	Move mouse cursor left a predefined number of pixels, or to the next logical predefined left position
Position 5	Advance to Position 1	Will simulate a mouse click on current position.

Further application of this invention would allow for navigation of other virtual devices, such as virtual keyboards - both with virtual mouse assistance, and without.

3. If the same advantage or problem has been identified by others (inside/outside IBM), how have those others solved it and does your solution differ and why is it better?  
unknown.

4. If the invention is implemented in a product or prototype, include technical details, purpose, disclosure details to others and the date of that implementation.  
This invention will be included in a school project due

**\*Critical Questions ( Questions 1 - 7 must be answered)**

<b>*Question 1</b> On what date was the invention workable? 03/31/2000. <b>Please format the date as MM/DD/YYYY</b> (Workable means i.e. when you know that your design will solve the problem)
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<b>*Question 2</b> Is there any planned or actual publication or disclosure of your invention to anyone outside IBM?	<input checked="" type="radio"/> Yes <input type="radio"/> No
If yes, Enter the name of each publication or patent and the date published below. Working on this for school project with a due date of	
Are you aware of any publications, products or patents that relate to this invention?	<input type="radio"/> Yes <input checked="" type="radio"/> No
If yes, Enter the name of each publication or patent and the date published below. Publication/Patent: Date Published or Issued:	

<b>*Question 3:</b> Has the subject matter of the invention or a product incorporating the invention been sold, used internally in manufacturing, announced for sale, or included in a proposal?	<input type="radio"/> Yes <input checked="" type="radio"/> No
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Is a sale, use in manufacturing, product announcement, or proposal planned?	<input type="radio"/> Yes <input checked="" type="radio"/> No
If Yes, identify the product if known and indicate the date or planned date of sale, announcements, or proposal and to whom the sale, announcement or proposal has been or will be made. Product: Version/Release: Code Name: Date: To Whom: If more than one, use cut and paste and append as necessary in the field provided.	

<b>*Question 4</b> Was the subject matter of your invention or a product incorporating your invention used in public, e.g., outside IBM or in the presence of non-IBMers?	<input type="radio"/> Yes <input checked="" type="radio"/> No
If yes, give a date. <b>Please format the date as MM/DD/YYYY</b>	

<b>*Question 5</b> Have you ever discussed your invention with others not employed at IBM?	<input type="radio"/> Yes <input checked="" type="radio"/> No
If yes, identify individuals and date discussed. Fill in the text area with the following information, the names of the individuals, the employer, date discussed, under CDA, and CDA #.	

<b>*Question 6</b> Was the invention, in any way, started or developed under a government contract or project?	<input type="radio"/> Yes <input type="radio"/> No <input checked="" type="radio"/> Not sure
If Yes, enter the contract number	

<b>*Question 7</b> Was the invention made in the course of any alliance, joint development or other contract activities?	<input type="radio"/> Yes <input type="radio"/> No <input checked="" type="radio"/> Not Sure
If Yes, enter the following: Name of Alliance, Contractor or Joint Developer	
Contract ID number	
Relationship contact name	
Relationship contact E-mail	
Relationship contact phone	

<b>Question 8</b> Have you submitted, or are you aware of, any related disclosure submission?	<input type="radio"/> Yes <input checked="" type="radio"/> No
If Yes, please provide the title and docket or disclosure number below:	

**Question 9**

What type of companies do you expect to compete with inventions of this type? *Check all that apply.*

- ☐ Manufacturers of enterprise servers
- ☐ Manufacturers of entry servers
- ☐ Manufacturers of workstations
- ☐ Manufacturers of PC's
- ☐ Non-computer manufacturers
- ☒ Developers of operating systems
- ☐ Developers of networking software
- ☒ Developers of application software
- ☐ Integrated solution providers
- ☐ Service providers
- ☐ Other (Please specify below)

**Patent Value Tool (Optional - this may be used by the inventor and attorney to assist with the evaluation)**

(The Patent Value tool can be used by you or the evaluation team to determine the potential licensing value of your invention.)

The **Patent Value Tool** has not yet been used to calculate a score.

**Post Disclosure Text & Drawings**

Enter any additional information relating to this disclosure below:

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Mike Beranek/Chicago/IBM

To John Pivnichny/Endicott/IBM@IBMUS

cc

bcc

Subject Fw: Submission of Disclosure Number SMS8-2000-0030

Here you go

Mike Beranek  
IBM Learning Solutions EBO  
312-245-7998 (t/ 261)

Creating the future of learning  
[ibm.com/learning](http://ibm.com/learning)  
intranet: [w3.ibm.com/services/learning](http://w3.ibm.com/services/learning)

— Forwarded by Mike Beranek/Chicago/IBM

EXHIBIT B



Sandra Delaurentis

To: Richard Popik/Atlanta/IBM@IBMUS, Mike  
Beranek/Atlanta/IBM@IBMUS

cc:

Subject: Submission of Disclosure Number SMS8-2000-0030

DISCLOSURE NUMBER: SMS8-2000-0030

TITLE: Method and Apparatus of Navigating a Windowed Operating Environment Using a Dual Discrete Input Mechanism

ATTORNEY/PATENT PROFESSIONAL: JoAnn Crockatt

Thank you for submitting your invention disclosure identified above. I appreciate your time and effort in preparing this disclosure, and the creative thought which it represents.

We will evaluate your disclosure to determine whether or not action should be taken to protect the invention described in it. This evaluation will be performed by the Intellectual Property Law (IPLaw) department and representatives of technical management, and will include an initial economic and technical evaluation, possibly followed by a prior art search. We will notify you if a search will be performed, and when a final disposition of your disclosure has been determined.

Please save any files and other materials that you used to prepare this disclosure. If our decision is to publish or file your invention, you will be asked for additional information and those materials may prove useful to us.

It is important that the inventors named on the disclosure be the correct inventors of the invention described in it. Please contact the Intellectual Property attorney identified if you believe the inventors listed are incorrect.